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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/691,838	10/18/2000	Noriaki Takakura	018901/0178	3535
22428	7590	09/08/2004	EXAMINER	
FOLEY AND LARDNER			TANG, KENNETH	
SUITE 500			ART UNIT	
3000 K STREET NW			PAPER NUMBER	
WASHINGTON, DC 20007			2127	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/691,838	Applicant(s) TAKAKURA, NORIAKI	
	Examiner Kenneth Tang	Art Unit 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/22/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This final action is in response to the Amendment on 5/26/04. Applicant's arguments have been fully considered but they are now moot in view of the new grounds of rejections.
2. Claims 1 and 5-7 are presented for examination.

Claim Objections

3. Claim 1 is objected to because of the following grammatical error:
 - "a administrative table" (line 6) should be changed to "an administrative table"

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:
 - a. In claim 1, "wherein said selector sequentially increments an index if said administrative table associated with said starting addresses to select said executable user process" (lines 17-18) is indefinite because it is grammatically incorrect and does not make any sense, and therefore, is unclear and fails to point out the subject matter of the invention.

5. Claim 1 recites the limitation "said manager" in line 5. In addition, claim 1 recites the limitation "said plural processor scheduler" in lines 14 and 15. There is insufficient antecedent basis for these limitations in the claim.

6. Claims 6-7 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are:

b. In claim 6, there is no structural relationship established between the "plural independent process schedulers respectively associated with separate user process groups" (lines 5-6) and the "retaining a context of presently processed user process".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1 and 5-7 are rejected under 35 U.S.C. 102(e) as being unpatentable by Kamada et al. (hereinafter Kamada) (US 6,108,683).**

8. *Kamada was cited in the last office action.*

9. As to claim 1, Kamada teaches a process scheduling system comprising:

plural independent process schedulers (*Fig. 5, items 10-1 and 10-2*) respectively associated with separate plural user process groups (*Fig. 5, items 11-1 and 11-2*) each having at least one user process (*Fig. 5, items 12-1, 12-2, 12-3, and 12-4*) and selectively activated so as to search the associated user process groups for an executable user process (*col. 11, lines 19-40, and col. 4, lines 4-16, Fig. 3, items 10-11, 10-12, 12-1, 12-2, and 12-3*),

an administrator (*process execution instructions portion, Fig. 6, item 20*) for managing said plural process schedulers (*Fig. 5, items 10-1, 10-2*) said manager including a administrative table (process management table) (*"the group of the user processes which are managed by using the process management table 18", col. 12, lines 1-4 and Fig. 6, item 18*)),

a process managing section respectively associated with said plural process schedulers for managing said plural user process groups (*"the group of the user processes which are managed by using the process management table 18", col. 12, lines 1-4 and Fig. 6, item 18*),

a selector cooperating with said administrator for selectively activating said plural process schedulers and informed of said executable user process (*"user process schedulers", "process execution instruction portion by referring to the process management table", col. 4, lines 43-52*).

a processor changer associated with said selector and changing a presently processed user process to said executable user process (*col. 5, lines 24-40*);

wherein said administrator stores in said administrative table data information respectively unique to said plural process schedulers, said data information representative of starting addresses of programs for implementing said plural process schedulers, respectively (*col. 19, lines 29-44 & 57-61, col. 13, lines 42-67 through col. 14, lines 1-20*); and

wherein said selector sequentially increments an index if said administrative table associated with said starting addresses to select said executable user process (*col. 13, lines 42-67 through col. 14, lines 1-20*).

10. As to claim 5, Kamada teaches in which said process managing section has pieces of data information respectively each having at least one sub-piece of data information unique to said at least one user process of one of said user process groups ("*process management table*", *col. 4, lines 43-52*).

11. As to claim 6, Kamada teaches a process for scheduling user processes, comprising the steps of:

- a) retaining a context of presently processed user process ("*process execution control portion*", "*user process*", "*schedulers*", *col. 4, lines 23-58*);
- b) calling a selector into execution ("*request or demand from user process*", *col. 4, lines 43-52*);

- c) selecting (based on priority) one of plural independent process schedulers (*Fig. 5, items 10-1 and 10-2*) respectively associated with user process groups (*Fig. 5, items 11-1 and 11-2*) each having at least one user process (*Fig. 5, items 12-1, 12-2, 12-3, and 12-4*) (*col. 11, lines 19-40, col. 4, lines 43-52*); and
- d) causing said one of the process schedulers to search the associated user process group for an executable user process (*see Abstract, and Fig. 6, items 18, 20, and 24, col. 11, lines 19-40*).

12. As to claim 7, Kamada teaches the step of causing a context of said executable user process for replacing said presently processed user process with said executable user process ("*process execution control portion*", "*user process*", "*schedulers*", *col. 4, lines 25-62*).

Response to Arguments

13. Applicant argues on page 6 of the Remarks that Kamada does not teach that the schedulers to be independent respectfully associated with separate user process groups.

In response, Examiner respectfully disagrees. As stated in the rejections of claims 1 and 6, Kamada teaches the schedulers to be independent respectfully associated with separate user process groups (*Fig. 5, items 10-1 and 10-2, Fig. 5, items 11-1 and 11-2, Fig. 5, items 12-1, 12-2, 12-3, and 12-4, col. 11, lines 19-40, and col. 4, lines 4-16, Fig. 3, items 10-11, 10-12, 12-1, 12-2, and 12-3*).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- **Belo (US 5,379,428)** teaches a scheduling system for parallel processing computer systems that have a selector (*process scheduler, Fig. 1, item 18*) that selects one of plural independent process schedulers (*cluster schedulers, Fig. 1, items 20a, 20b, 20c, 20N*) respectively associated with separate user process groups having at least one user process (*insert register queue, col. 8, lines 47-62*) and that this type of process scheduling increases convenience and flexibility because it easily interfaces with the parallel processing system bus (*col. 10, lines 8-16*).
- **Soni (US 6,742,111 B2)** teaches parallel scheduling involving independent schedulers for each one of respective (separate) distributed reservation stations and that multiple independent schedulers will provide greater efficiency when compared to a single scheduler (*see Abstract*).

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MENG-AI AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

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9/1/04